IN THE CLAIMS:

Amendments to the Claims

Please cancel claims 70 - 77 without prejudice or disclaimer of the subject mater thereof and add the following new claims.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-69 (canceled)

Claims 70 - 77 (canceled)

78. (new) A plasma etching apparatus for processing a sample disposed inside of a vacuum vessel by etching processing using a plasma, comprising:

a chamber located inside of the vacuum vessel, an interior of the chamber being in a vacuum state and the sample being disposed in the chamber, wherein an electric field is supplied and processing gas is introduced to the chamber so as to generate the plasma in the chamber;

an electrode disposed at a lower part of the chamber and having the sample loaded thereon so as to be etching processed by the plasma;

a member which is detachably held on an inner surface of a side wall of the vacuum vessel and forming an inner surface of the chamber which is in contact with the plasma, the member having a thermally conductive medium supplied therein so as to circulate within the member during the etching processing of the sample; and

a temperature controller to adjust the thermally conductive medium so as to adjust a temperature of a surface of the member during the etching processing of the sample to be lower than a temperature of the sample during the etching processing thereof.

79. (new) A plasma etching apparatus according to claim 78, wherein the temperature controller adjusts the surface temperature of the member within a range of 20°C to 100°C.

80. (new) A plasma etching apparatus according to claim 78, wherein the side wall and the member comprise an electrically conductive material, and the side wall is grounded.

81. (new) A plasma etching apparatus according to claim 78, wherein the temperature controller adjusts the temperature of the surface of the member so as to enable a coating of etching reaction products generated in the chamber due to etching processing of the sample to be deposited on the member with substantially no peeling therefrom.

82. (new) A plasma etching apparatus for processing a sample by etching processing using a plasma, comprising:

a processing chamber having a cylindrically shaped chamber, an interior of the processing chamber being in a vacuum state, and wherein an electric field is supplied and a processing gas is introduced to the processing chamber so as to generate the plasma in the processing chamber;

an electrode disposed in a lower part of the processing chamber at a position which is located lower than a space in which the plasma is generated, the sample being loaded on the electrode for etching processing;

a jacket which is detachably held on a side wall of a vacuum vessel forming at least a portion of the processing chamber, the jacket comprising at least a part of an inner surface of a side wall of the processing chamber and being in contact with the plasma, the jacket being supplied with a thermally conductive medium therein which is circulated inside of the jacket during etching processing of the sample; and

a temperature controller to adjust the thermally conductive medium so as to adjust a temperature of a surface of the jacket during the etching processing of the sample to be lower than a temperature of the sample during the etching processing thereof.

83. (new) A plasma etching apparatus according to claim 82, wherein the temperature controller adjusts the surface temperature of the jacket within a range of 20°C to 100°C.

84. (new) A plasma etching apparatus according to claim 82, wherein the side wall and the jacket comprise an electrically conductive material, and the side wall is grounded.

85. (new) A plasma etching apparatus according to claim 82, wherein the temperature controller adjusts the temperature of the surface of the jacket so as to enable a coating of etching reaction products generated in the chamber due to

etching processing of the sample to be deposited on the jacket with substantially no peeling therefrom.

86. (new) A plasma etching apparatus for processing a sample disposed inside of a vacuum vessel by etching processing using a plasma, comprising:

a chamber located inside the vacuum vessel, an interior of the chamber being in a vacuum state and the sample being disposed, wherein an electric field is supplied and processing gas is introduced to the chamber so as to generate the plasma in the chamber;

an electrode disposed at a lower part of the chamber and having the sample loaded thereon so as to be etching processed by the plasma;

a sample temperature controller to adjust a temperature of the sample on the electrode;

a member which is detachably held on an inner surface of a side wall of the vacuum vessel and forming an inner surface of the chamber which is in contact with the plasma, the member having a thermally conductive medium supplied therein so as to circulate within the member during the etching processing of the sample; and

an inner surface temperature controller to adjust a temperature of the thermally conductive medium so as to adjust a temperature of the inner surface of the member during the etching processing of the sample to be lower than the temperature of the sample on the electrode during the etching processing thereof.

87. (new) A plasma etching apparatus according to claim 86, wherein the inner surface temperature controller adjusts the surface temperature of the member within a range of 20°C to 100°C.

88. (new) A plasma etching apparatus according to claim 86, wherein the side wall and the member comprise an electrically conductive material, and the side wall is grounded.

89. (new) A plasma etching apparatus according to claim 86, wherein the temperature controller adjusts the temperature of the surface of the member so as to enable a coating of etching reaction products generated in the chamber due to etching processing of the sample to be deposited on the member with substantially no peeling therefrom.